



HEALTH UPDATE

SMALLPOX VACCINATIONS: Patient Care Considerations and Vaccination Site Care

Categories of Health Alert messages:

- Health Alert: conveys the highest level of importance; warrants immediate action or attention.
- Health Advisory: provides important information for a specific incident or situation; may not require immediate action.
- Health Update: provides updated information regarding an incident or situation; no immediate action necessary.

President Bush announced this month that the government will begin vaccinating millions of U.S. troops and emergency workers against the smallpox disease because of its potential use as a terrorist weapon.

The North Dakota Department of Health in cooperation with the Centers for Disease Control and Prevention has prepared the following recommendations for healthcare workers regarding patient care considerations and vaccination site care.

➤ BACKGROUND

- The smallpox vaccine contains live vaccinia virus. A smallpox vaccination site sheds active vaccinia virus particles. While vaccinia is not smallpox, it can be dangerous to some individuals.
- With proper care of the vaccination site, the risk of transmitting vaccinia to a patient from a health care worker is very low, particularly from previously vaccinated health care workers.
- In the past, most occurrences of nosocomial transmission occurred from health care workers with eczema vaccinatum which caused virus to be shed from other skin lesions distant from the primary vaccination site.
- Primary vaccinees shed five times more virus than persons previously vaccinated.
- Viral shedding can continue until the scab falls off the vaccination site (usually around 21 days post vaccination.)
- Vaccinia can live on environmental surfaces for a few days, and can live in the scab much longer. The virus is easily inactivated by routine antiseptic cleaners (e.g., alcohol).
- Persons at greatest risk from the vaccinia virus include those with a compromised immune status (e.g., chemotherapy, leukemia, lymphoma, transplant, HIV, infants) or persons with a skin disease (e.g., burns, dermatitis).

- Dry gauze covered with a semi-permeable dressing (e.g., OpSite® or Tegaderm®) will decrease viral shedding by 97%. A second layer of semi-permeable dressing will further decrease viral shedding, but is not routinely indicated.

➤ PATIENT CARE

- Vaccinees should avoid caring for patients at increased risk from vaccinia until the scab separates from the vaccination site.
- Vaccinees may provide patient care to persons without increased risk from vaccinia with proper precautions (see “VACCINE SITE CARE” below).
- If health care workers must care for high risk patients, an additional layer of semi-permeable dressing should be applied. It is preferable that health care workers working with high-risk patients would have been previously vaccinated for smallpox.
- Health care workers must use meticulous hand hygiene. Soap and water is recommended.
- Vaccinees should avoid touching the vaccination site.
- Reasons for excluding a health care worker from patient duties include systemic symptoms (fever, malaise) which make the provider too ill to work, any vaccine-related complication (e.g., eczema vaccinatum), difficulty covering the entire lesion or inadequate attention to hygiene.

➤ VACCINE SITE CARE

- The vaccination site should be covered with dry gauze and a semi-permeable dressing. The dressing should be changed every three days when not weeping, and at least daily during periods of weeping. Anytime the gauze appears moist or stained the dressing should be changed. Clothing (e.g., long sleeves) should cover the dressings.
- The semi-permeable dressing should completely cover the vaccination site and any satellite lesions.
- Before each shift the vaccination site should be examined by a designated individual who has been trained in vaccination site care. The dressing should be changed if indicated. Examination of the site should include ensuring complete coverage of the lesion by a sealed dressing over dry gauze and clothing which covers the dressing. On day 7 the lesions should be assessed for adequacy of take.
- A debilitating local reaction (severe itching, maceration) may require a health care worker to have periods of time when the lesion is undressed during non-patient care hours.
- The vaccinee may bathe/shower after vaccination, but should have the lesion covered by a waterproof dressing or should wrap the arm with plastic wrap. The vaccine area should not be submerged in water.
- Vaccinees should follow similar precautions at home as at work including meticulous hand hygiene and not touching the site to avoid transmission to household members or auto-inoculation to another part of the body (e.g., eye).

- Vaccinees may participate in usual activities (e.g., cooking, sexual activity) as long as the site is covered with a minimum of dry gauze and clothing. However, direct contact with the lesions should be avoided by other household members. Dressing changes at home should be performed by the vaccinee.
- In the home, all contaminated dressings and the scab after separation should be placed in a sealed plastic bag and disposed of in the garbage. Home laundry from the vaccinee should be held and laundered separately in warm or hot water with detergent.

In January 2003, the North Dakota Department of Health will hold a series of web casts designed to provide first responders, medical personnel, etc., with information about smallpox, smallpox vaccine and the state's vaccination program. Until then, if you would like more information, contact Brenda Vossler, RN, CIC, at 701.328.2270 or visit the following websites:

- *North Dakota Department of Health* - www.health.state.nd.us
- *Archived smallpox web casts* - <http://www.health.state.nd.us/smallpox/>
- *Centers for Disease Control and Prevention* - www.bt.cdc.gov/agent/smallpox/reference/resource-kit.asp
- *U.S. Department of Health and Human Services* - www.hhs.gov/smallpox/